

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A method of cleaning a semiconductor surface, comprising:
placing the semiconductor surface in contact with a halogenated hydrocarbon carrier fluid
in an amount sufficient to immerse the semiconductor surface;
forming a supercritical fluid adjacent to the semiconductor surface;
changing a thermodynamic condition of the supercritical fluid to cause gas bubbles in the
carrier fluid; and
concurrently brushing the semiconductor surface with the gas bubble formation.
2. (Original) The method of claim 1, wherein forming a supercritical fluid includes forming
a carbon dioxide supercritical fluid.
3. (Original) The method of claim 1, wherein forming a supercritical fluid includes forming
a supercritical fluid from a group consisting of nitrous oxide, ethane, ethylene, propane, and
xenon.
4. (Original) The method of claim 1, wherein forming a supercritical fluid includes forming
a supercritical fluid from a group consisting of ethyl alcohol, ethyl ether and methyl alcohol.
- 5-6. (Canceled)
7. (Original) The method of claim 1, further including providing sonic wave energy to the
carrier fluid.
8. (Canceled)

9. (Original) The method of claim 1, wherein forming a supercritical fluid includes adjusting both a pressure and temperature of a surrounding gas atmosphere to form the supercritical fluid.
10. (Original) The method of claim 1, wherein changing a thermodynamic condition includes changing both a pressure and temperature of the supercritical fluid.
11. (Currently Amended) A method of cleaning a semiconductor surface, comprising:
placing the semiconductor surface in contact with a halogenated hydrocarbon carrier fluid in an amount sufficient to immerse the semiconductor surface;
forming a carbon dioxide supercritical fluid adjacent to the semiconductor surface;
changing a thermodynamic condition of the carbon dioxide supercritical fluid to cause gas bubbles in the carrier fluid; and
concurrently brushing the semiconductor surface with the gas bubble formation.
- 12.-13. (Canceled)
14. (Original) The method of claim 11, further including providing sonic wave energy to the carrier fluid.
15. (Canceled)
16. (Currently Amended) A method of cleaning a semiconductor surface, comprising:
placing the semiconductor surface in contact with a halogenated hydrocarbon carrier fluid in an amount sufficient to immerse the semiconductor surface;
forming a supercritical fluid adjacent to the semiconductor surface;
changing a thermodynamic condition of the supercritical fluid to cause gas bubbles in the carrier fluid; and

providing supplemental mechanical energy at the semiconductor surface in addition to the gas bubbles, including concurrently brushing the semiconductor surface with the gas bubble formation.

17. (Original) The method of claim 16, wherein forming a supercritical fluid includes forming a carbon dioxide supercritical fluid.

18.-19. (Canceled)

20. (Original) The method of claim 16, wherein providing supplemental mechanical energy includes providing sonic wave energy to the carrier fluid.

21. (Canceled)

22. (Currently Amended) A method of cleaning a semiconductor surface, comprising:
placing the semiconductor surface in contact with a halogenated hydrocarbon carrier fluid in an amount sufficient to immerse the semiconductor surface;
forming a supercritical fluid adjacent to the semiconductor surface;
changing a thermodynamic condition of the supercritical fluid to cause gas bubbles in the carrier fluid;
providing sonic wave energy to the carrier fluid; and
concurrently brushing the semiconductor surface with the gas bubble formation.

23. (Original) The method of claim 22, wherein forming a supercritical fluid includes forming a carbon dioxide supercritical fluid.

24. (Original) The method of claim 22, wherein providing sonic wave energy to the carrier fluid includes providing ultrasonic wave energy to the carrier fluid.

25. (Original) The method of claim 22, wherein providing sonic wave energy to the carrier fluid includes providing megasonic wave energy to the carrier fluid.

26.-40. (Canceled)

41. (Currently Amended) A method of cleaning a semiconductor assembly, comprising:
placing the semiconductor assembly in contact with a halogenated hydrocarbon carrier fluid in an amount sufficient to immerse the semiconductor surface;
forming a supercritical fluid adjacent to the semiconductor surface;
reducing pressure at a given temperature above the critical point in the supercritical fluid to cause gas bubbles in the carrier fluid; and
concurrently brushing the semiconductor surface with the gas bubble formation.

42. (Original) The method of claim 41, wherein forming a supercritical fluid includes forming a carbon dioxide supercritical fluid.

43. (Canceled)

44. (Previously Presented) The method of claim 41, wherein immersing the semiconductor assembly in a halogenated hydrocarbon carrier fluid includes immersing the semiconductor assembly in a chlorocarbon solvent.

45. (Original) The method of claim 41, wherein immersing the semiconductor assembly in a halogenated hydrocarbon carrier fluid includes immersing the semiconductor assembly in a chlorofluorocarbon solvent.

46. (Original) The method of claim 41, further including providing sonic wave energy to the carrier fluid.

47.-50. (Canceled)